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SONT DE PIÈTRE QUALITÉ DE REPRODUCTION

Manitoba Agriculture

Guidelines for Estimating

COW-CALF PRODUCTION COSTS

Based on a 70 Cow Herd

Information Update

DATE: January, 1988

This guide is designed to provide planning information and a format for calculating costs of production on a cow-calf enterprise. The production costs included in this enterprise budget are not intended as a cost study of the beef industry in Manitoba.

The budget estimates costs of production for 1988 based on a number of assumptions which are clearly defined in the supporting pages. Input costs are based on recommended practices and/or information obtained from producers. Good management is assumed in that a balanced ration is being fed, livestock are on a herd health program and handling facilities are included.

The guideline can be useful for comparison purposes. Comparison of costs at different levels of production can be made with other farms; the farm over time; or comparing the plan with the actual production at the end of the planning period.

The budget may be adjusted by putting your figures in the appropriate column. Each cow-calf producer is encouraged to determine his own costs of production based on his own inputs, pasture program, and management.

For those producers with the Manitoba Beef Commission, premiums would have to be added to the operating costs.

COW-CALF PRODUCTION COSTS
(BASED ON A 70 COW HERD)

		$/Cow/Year	Your Farm
A.	**OPERATING COSTS**		
1.	Feed Costs:		
	1.01 Grain	$ 4.33	
	1.02 Hay	117.00	
	1.03 Salt & Minerals	10.24	
	Total Feed Cost	$131.57	
2.	Other Operating Costs:		
	2.01 Straw	15.00	
	2.02 Vet. Medicine & Supplies	15.00	
	2.03 Breeding Costs	32.34	
	2.04 Machinery, Mtce. & Repairs	27.89	
	2.05 Hydro, Water, Telephone	5.80	
	2.06 Marketing & Transportation	2.69	
	2.07 Death Loss	20.00	
	2.08 Manure Removal	14.29	
	2.09 Miscellaneous	6.00	
	Subtotal Operating Costs	270.58	
	2.10 Operating Interest	16.23	
TOTAL OPERATING COSTS		**$286.81**	
B.	**FIXED COSTS**		
3.	Depreciation		
	3.01 Buildings	$ 14.96	
	3.02 Machinery & Equipment	23.86	
4.	Investment		
	4.01 Buildings	$ 11.97	
	4.02 Machinery & Equipment	14.03	
	4.03 Livestock	80.00	
5.	Herd Replacement	48.75	
TOTAL FIXED COSTS		**$193.57**	
TOTAL OPERATING AND FIXED COSTS		**$480.38**	
6.	Labour	$ 90.00	
7.	Pasture (A. Marginal Land)	$ 39.17	
TOTAL COST OF PRODUCTION		**$609.55**	

Breakeven price/kg calf:		
A. Operating Costs	$1.50/kg (0.68/lb)	
B. Fixed Costs	$1.01/kg (0.46/lb)	
Labour and Pasture	$0.68/kg (0.31/lb)	
Total Breakeven Price per kg	$3.19/kg ($1.45/lb)	

Breakeven Price/kg = Cost ÷ 85% calf crop ÷ 225 kg (496 lb) calf weight

ASSUMPTIONS

COW-CALF PRODUCTION COSTS - JANUARY 1988

1. This budget outlines the cost of production for a cow-calf operation with 70 cows and 85% calf crop.
2. Building and Equipment are valued at new cost.
3. All feed is valued at Fair Market Value.
4. Manure removal contracted out.
5. Replacement heifers are valued at fair market value.

WORKSHEET

COW-CALF PRODUCTION COSTS

A. OPERATING COSTS — Your Farm

1. Feed Costs:

1.01 Grain

	60	days/year	
X	1.36	kg barley/cow/day (3.0 lbs)	
X	$0.053	/kg barley* ($0.024/lb or $1.15/bu)	
=	**$ 4.33**	**/cow**	

1.02 Hay

	3.0	tonnes alfalfa brome hay/cow	
X	$ 39.00	/tonne	
=	**$117.00**	**/cow**	

1.03 Salt and Minerals

	16.0	kg salt/cow/year	
X	$ 0.20	/kg	
=	$ 3.20	/cow	

	16.0	kg mineral/cow/year	
X	$ 0.44	/kg	
=	$ 7.04	/cow	
=	**$ 10.24**	**/cow**	**Total Salt and Minerals**

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* 1 bushel (bu) barley = 48 lbs = 21.8 kg
1 kilogram (kg) = 2.2046 pounds (lbs)
1 tonne (t) = 1,000 kg

Your Farm

2. Other Operating Costs:

2.01 Straw

	1.0	tonne straw/cow/year	
X	$ 15.00	/tonne	
=	**$ 15.00**	**/cow**	

2.02 Veterinary Medicine & Supplies

CALF MEDICATION

	$ 0.30	/calf	Blackleg (8 way vaccine)
+	$ 0.40	/calf	IBR
=	$ 0.70	/calf	Total
X	70	cows	
X	85	% calf crop	
=	$ 41.65		
÷	70	cows	
a) =	$ 0.60	/cow	

COW MEDICATION

b)	$ 0.15	/cow	IBR (cows every 3 years)
c)	$ 4.25	/cow	Scourguard 3
d)	$ 3.00	/cow	Footrot, louse control, degrubbing, surgery, antibiotics, etc.

HERD HEALTH PROGRAM

Professional Services:

$ 35.00/hr for 7 visits/year
(assume 3 visits @ 2 hours and 4 visits @ 1 hour = 10 hours total)

	$ 35.00	/hour	
X	10	hours	
=	$350.00		
÷	70	cows	
e) =	$ 5.00	/cow	

Transportation:

Assume that herd health charges include transportation; $0.25/km for an 80 km round trip.

	$ 0.25	/km	
X	80	km	
X	7	visits	
÷	70	cows	
f) =	$ 2.00	/cow	

$15.00 /cow Total Vet. Medicine & Supplies [Total of a) to f)]

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1 kilometre (km) = 0.62 miles

Your Farm

2.03 Breeding Costs

a) Feed for Bulls

	3	tonnes alfalfa brome hay	_____
X	$ 39.00	/tonne	_____
X	2	bulls	_____
÷	70	cows	_____
=	$ 3.34	/cow	_____
	3.6	/kg grain/day	_____
X	120	days	_____
X	$0.053	/kg	_____
X	2	bulls	_____
÷	70	cows	_____
=	$ 0.65	/cow	_____
+	3.34	/cow	_____
=	$ 3.99	/cow Total Feed (Bulls Only)	_____

b) Straw for Bulls

	0.5	tonnes/bull	_____
X	$ 15.00	/tonne	_____
X	2	bulls	_____
÷	70	cows	_____
=	$ 0.21	/cow/year	_____

c) Vet & Medicine for Bulls

	$ 16.00	/bull	_____
X	2	bulls	_____
÷	70	cows	_____
=	$ 0.46	/cow/year	_____

d) Replacement of Bulls

	$ 3000	/bull; original cost	_____
-	1500	/bull; salvage value	_____
=	1500		_____
÷	2	years of service	_____
=	$ 750	/bull; depreciation cost	_____
X	2	bulls	_____
÷	70	cows	_____
=	$ 21.43	/cow/year	_____

Your Farm

e) Investment in Bulls

$$\frac{\text{Original Cost + Salvage Value}}{2} \times \text{Interest Rate}$$

	$ 3000	/bull; original cost	
+	1500	/bull; salvage value	
=	4500		
÷	2	years of service	
=	$ 2250	/bull; average value	
X	8	% interest on investment	
÷	100		
=	$ 180	/bull; investment cost	
X	2	bulls	
÷	70	cows	
=	$ 5.14	/cow	

f) Buildings & Pasture Costs for Bulls

Assume the same pasture cost that P.F.R.A. charges for 1 cow without a calf

	$ 39.00	Pasture Cost	
X	2	bulls	
÷	70	cows	
=	$ 1.11	/cow/year	

$ 32.34 /cow Total Breeding Cost (a to f)

g) Other Breeding Alternatives

a) Artificial Insemination - may be another option; $10 to $20 per cow or heifer.

b) P.F.R.A. Community Pasture - breeding fees of $28 per cow or heifer.

2.04 Machinery, Maintenance & Repairs

a) Tractor

fuel:	1.5	hours/day	
X	150	days/year	
X	10	litres/hour	
X	$ 0.40	/litre	
=	$900.00	fuel	
other: +	450.00	oil, repairs, maintenance	
=	$1350.00		
÷	70.00		
	$ 19.29	/cow	

				Your Farm
b) Truck				
fuel:		4000	km/year	
	X	18.9	litres/100 km (15 miles/gallon)*	
	÷	100		
	X	$ 0.40	/litre	
	=	$302.40	fuel	
other:	+	300.00	oil, repairs, maintenance	
	=	$602.40		
	÷	70.00		
		$ 8.61	/cow	
	+	19.28	/cow	
	=	**$ 27.89**	**/cow** **Total Mach, Repairs & Maint.**	

2.05 Hydro, Water and Telephone

	145	kilowatt hours/cow	
X	$0.0400	/kilowatt hour	
=	**$ 5.80**	**/cow/year**	

2.06 Marketing & Transportation

a) Trucking

	9	cull cows	
X	1100	lbs/cow	
X	$ 1.23	/cwt (trucking cost)	
÷	100		
÷	70	cows	
=	$ 1.74	/cow	

b) Selling Commission

	9	cull cows	
X	1100	lbs/cow	
X	$ 45.00	/cwt, selling value	
÷	100		
X	1.5	% commission on sales	
÷	70	cows	
=	$ 0.95	/cow	
+	1.74	/cow	
=	**$ 2.69**	**/cow** **Total Marketing & Trans.**	

(Budget does not include a premium for Beef Plan)

$$\text{litres/100 km} = \frac{1}{(\text{miles/gallon}) \times 0.00352}$$

1 imperial gallon = 4.55 litres

cwt = hundred-weight = 100 lbs.

Your Farm

2.07 Death Loss

	70	cows	
X	2	% death loss	
X	$1000	/cow	
÷	70	cows	
=	**$ 20.00**	**/cow**	

2.08 Manure Removal

Budget assumed a custom charge of $1000. It was estimated that it would take two men with a crawler and one truck two days to clean the lots and pole barns.

	$1000	annual cost for removal	
÷	70	cows	
=	**$ 14.29**	**/cow**	

2.09 Miscellaneous

(Includes expenses relating to farm records, administration, office supplies)

$ 6.00 /cow

2.10 Operating Interest

(Operating interest is charged on one half of the subtotal operating costs)

	270.58	Subtotal operating costs	
÷	2		
X	12	% operating interest rate	
=	**$ 16.23**	**/cow**	

B. FIXED COSTS

3. Depreciation:

$$\frac{\text{Original Cost - Salvage Value}}{\text{Useful Life}}$$

3.01 Buildings:

	$ 3,120	Bull Yard & Calving Pens	
	13,260	Main Wintering Lot & Pole Barn	
	1,575	Well	
	2,995	Handling Facilities	
=	$ 20,950		
-	0	Salvage Value	
=	$ 20,950		
÷	20	years useful life	
÷	70	cows	
=	**$ 14.96**	**/cow**	

Your Farm

3.02 Machinery & Equipment

a) Water System and Feed Bunks

	$2,965	Original Value	_____
-	0	Salvage Value	_____
=	2,965		_____
÷	10	years useful life	_____
÷	70	cows	_____
=	$ 4.24	/cow	_____

b) Tractor and Loader

	$ 32,500	Original Value	_____
X	40	% usage in Cow-Calf Enterprise	_____
=	$ 13,000	Portion for Cow-Calf Enterprise	_____
-	20	% Salvage Value	_____
=	$ 10,400		_____
÷	10	years useful life	_____
÷	70	cows	_____
=	$ 14.86	/cow	_____

c) Miscellaneous Machinery
(Post auger and driver, wagon and other miscellaneous tools along with a portion of half-ton truck)

	$ 5,000	Original Value	_____
-	20	% Salvage Value	_____
=	4,000		_____
÷	12	years life expectancy	_____
÷	70	cows	_____
=	$ 4.76	/cow	_____

$ 23.86 /cow Total Machinery & Equipment _____

Your Farm

4. Investment:

$$\frac{\text{Original Cost + Salvage Value}}{2} \times \text{Interest Rate}$$

4.01 Buildings

	$ 3,120	Bull Yard & Calving Pens	
	13,260	Main Wintering Lot & Pole Barn	
	1,575	Well	
	2,995	Handling Facilities	
=	$ 20,950		
+	0	Salvage Value	
=	$ 20,950		
÷	2		
X	8	% investment interest rate	
÷	70	cows	
=	**$ 11.97**	**/cow**	

4.02 Machinery & Equipment

a) Water System and Feed Bunks

	$ 2,965	Original Value	
+	0	Salvage Value	
=	$ 2,965		
÷	2		
X	8	% investment interest rate	
÷	70	cows	
=	$ 1.69	/cow	

b) Tractor and Loader

	$ 32,500	Original Value	
X	40	%	
=	$ 13,000	Portion for Cow-Calf Enterprise	
+	20	% Salvage Value	
=	$ 15,600		
÷	2		
X	8	%	
÷	70	cows	
=	$ 8.91	/cow	

			Your Farm
c)	Miscellaneous Machinery		
	$ 5,000	Original Value	
+	20	% Salvage Value	
=	$ 6,000		
÷	2		
X	8	% investment rate	
÷	70	cows	
=	$ 3.43	/cow	
=	**$ 14.03**	**Total Machinery & Equip. Depreciation**	

4.03 Livestock

$ 1,000	/cow	
X 8	% investment rate	
= **$ 80.00**	**/cow**	

5. Herd Replacement (Cows only)

$ 900	/replacement heifer	
- 575	/cull cow	
= $ 325		
X 15	% replacement rate	
= **$ 48.75**	**/cow**	

6. Labour

9	hours/cow/year	
X $10.00	/hour	
= **$ 90.00**	**/cow**	

7. Pasture Costs

Budget examined four different pasture programs with varying land values and carrying capacities. Choose the one that applies to your farm. Cattle were pastured for 150 days.

A. Marginal Land: Land values at $178/hectare ($72/acre) with carrying capacity of 3.2 hectares (7.9 acres) per cow. Property taxes are $1/hectare ($0.40/acre). Fence costs are $1,425/km ($2,280/mile) for the 7.2 km (4.5 miles) of fence required.

			Your Farm
A1	Depreciation on fence (no salvage value)		
	7.2	km	
X	$ 1,425	/km	
=	$10,260	fence cost	
÷	20	years useful life	
÷	70	cows	
=	$ 7.33	/cow	
A2	Investment		
A2.1	Fence (no salvage value)		
	$10,260	fence cost	
÷	2		
X	8	% investment rate	
÷	70	cows	
=	$ 5.86	/cow	
A2.2	Land		
	3.2	hectares/cow	
X	70	cows	
=	224	hectares	
X	$178.00	/hectare	
÷	2		
X	8	% investment rate	
÷	70	cows	
=	$ 22.78	/cow	
A3	Taxes		
	224	hectares	
X	$ 1.00	/hectare	
÷	70	cows	
=	$ 3.20	/cow	
	$ 39.17	**Total Pasture Cost of Marginal Land**	

1 hectare = 2.471 acres

B. Crop Land: Land valued at $1,000 per hectare ($405/acre) with a carrying capacity of 1.2 hectares (3 acres) per cow. Property taxes are $10/hectare ($4.05/acre). Fence costs are $1,425/km for the 4 km (2.5 miles) of fence required.

B1 Depreciation on fence (no salvage value)

	4.0	km
X	1,425	/km
=	$ 5,700	fence cost
÷	20	years useful life
÷	70	cows
=	$ 4.07	/cow

B2 Investment

B2.1 Fence (no salvage value)

	$ 5,700	fence cost
÷	2	
X	8	% investment rate
÷	70	cows
=	$ 3.26	/cow

B2.2 Land

	1.2	hectares/cow
X	70	cows
=	84	hectares
X	$1,000	/hectare
÷	2	
X	8	% investment rate
÷	70	cows
=	$48.00	/cow

B3 Taxes

	$10.00	/hectares
X	84	hectare
÷	70	cows
=	$12.00	/cow

$67.33 Total Pasture Cost of Crop Land

C. Crown Land: Crown land pasture cost is based on crown rental rate of $160/quarter which includes property tax. Carrying capacity is estimated at 11 cows per quarter. Fence costs are $1,425/km for the 8.0 km of fence required.

C1 Depreciation on fence (no salvage value)

	8.0	km
X	1,425	/km
=	$11,400	fence cost
÷	20	years useful life
÷	70	cows
=	$ 8.14	/cow

C2 Investment

C2.1 Fence (no salvage value)

	$11,400	fence cost
÷	2	
X	8	% investment rate
÷	70	cows
=	$ 6.51	/cow

C2.2 Land Rental (includes taxes)

	70	cows
÷	11	cows/quarter
=	6.36	quarters
X	$160.00	/quarter, rental rate
=	$1018.18	
÷	70	cows
=	$ 14.55	/cow/year

$ 29.19 Total Pasture Cost of Crown Land

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1 quarter section = 65 hectares = 160 acres

D. P.F.R.A.: Community pasture grazing fee is estimated at $0.27/cow/day plus $9/calf/season. Season is 150 days.

	D1 Cows		Your Farm
	0.27	/cow/day	
X	150	days	
=	$40.05	/cow	

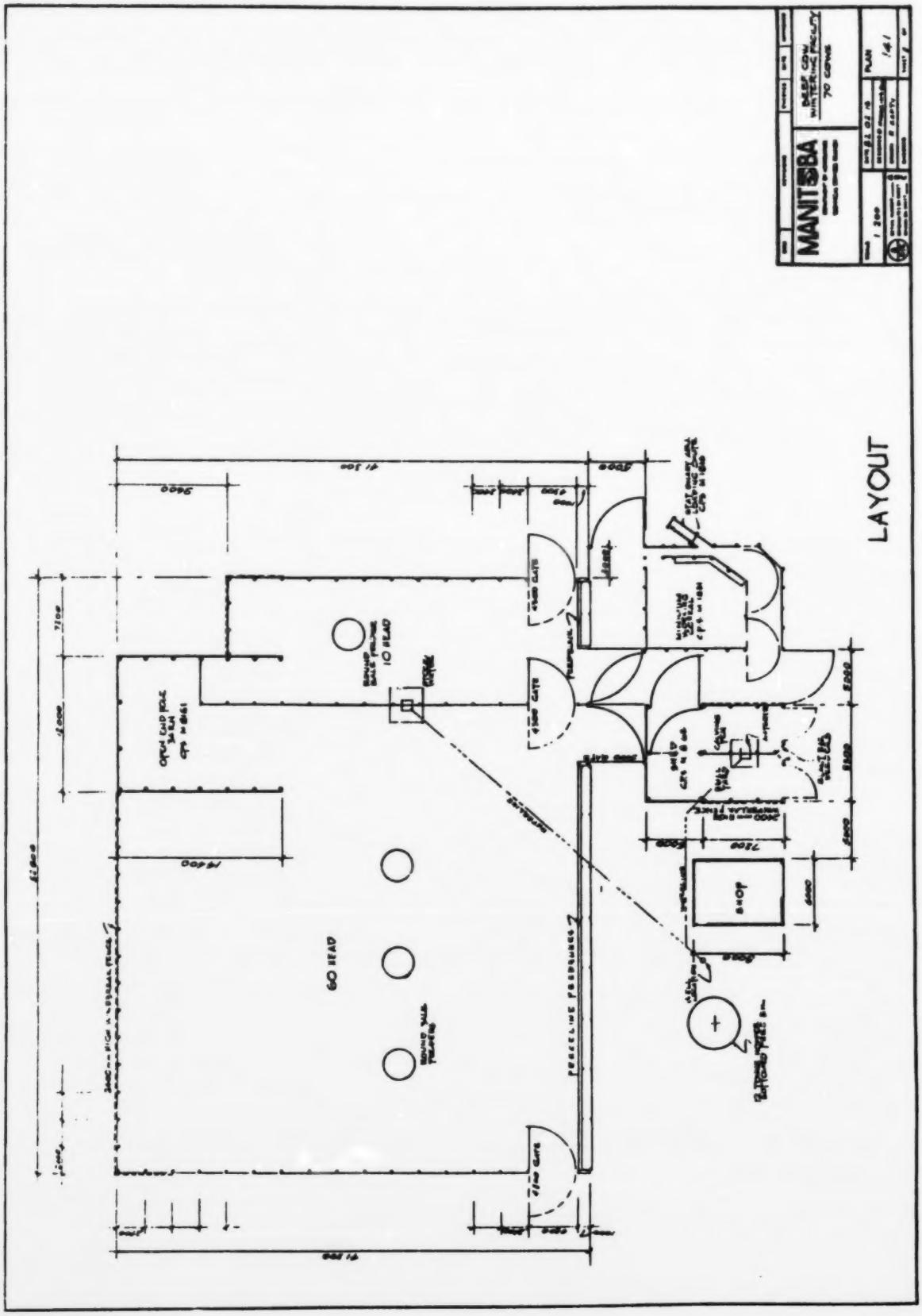
	D2 Calves		
	70	cows	
X	85	% calf crop	
=	60	calves	
X	$9	/calf/season	
=	$540		
÷	70	cows	
=	$7.71	/cow/year	
	$47.77	**Total P.F.R.A. Cost**	

FOR MORE INFORMATION SEE YOUR LOCAL MANITOBA AGRICULTURE OFFICE.

Budget
Prepared By:

Ralph Pieper
Farm Management Specialist

John Corbey
Farm Management Specialist


MANITOBA
LAYOUT
60 HEAD
10 HEAD
SHOP